

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Expanding the Economic and Innovation)	Docket No. 12-268
Opportunities of Spectrum Through Incentive)	
Auctions)	

Reply Comments of CBS Corporation

CBS Corporation (“CBS”) submits these brief reply comments to address protections for digital replacement translators, including its digital replacement translator operating on channel 22 in Plainview, New York, associated with WCBS-TV, New York, New York (Facility ID No. 9610); as well as other digital replacement translators authorized by the Commission in connection with CBS-owned stations in Chicago, Illinois, San Francisco, California, and Jeannette, Pennsylvania (serving the Pittsburgh-Johnstown area). A wide range of broadcasters filed comments on the Commission’s *Notice of Proposed Rulemaking*¹ urging the Commission to protect digital replacement translators and the viewers they serve in any repacking; CBS supports those comments.² Further, CBS agrees with other commenters that the Commission should, in

¹ Notice of Proposed Rulemaking, *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Docket No. 12-268 (rel. Oct. 2, 2012)(“*Notice*”).

² All references to “Comments” are to comments filed in Docket No. 12-268 on January 25, 2013. Comments relating to preserving the coverage areas of digital replacement translators were filed by the National Association of Broadcasters (“NAB”); the ABC Television Affiliates Association, CBS Television Network Affiliates Association, FBC Television Affiliates Association, and NBC Television Affiliates (collectively “Network Affiliates”); WGAL Hearst, Inc.; Tribune Company; Cox Media Group; Belo Corp.; Bahakel Communications, Ltd.; Raycom Media; and Gray Television, Inc.

crafting a repacking plan, protect viewers served or to be served by facilities for which construction permits were issued or applications were pending on February 22, 2012.³

The Commission Must Protect the Service Provided by Digital Replacement Translators

The Commission authorized stations to apply to construct digital replacement translators because it realized that, as a result of the transition to digital television, many stations' post-transition facilities did not reach viewers within those stations' analog reception areas, either because of interference or poor reception.⁴ While many of the stations that applied for digital replacement translators had post-transition VHF assignments, the Commission did not restrict digital replacement translators to VHF stations; stations with UHF assignments that faced post-transition reception problems could and did apply for digital replacement translators.

WCBS-TV was one. As shown in its application to construct its digital replacement translator⁵ and in the statement of Joseph M. Davis attached hereto, the signal from CBS's transmitter on the Empire State Building on channel 33 is subject to interference from a Hartford station in areas across Long Island and Southern Connecticut that were within WCBS-TV's analog service area. The digital replacement translator on channel 22 in Plainview serves an area of 978.2 square kilometers where receivers are subject to signal losses due to interference from the Hartford station as well as terrain. 319,872 people (using 2000 Census figures) reside in that

³ Parties urging the Commission to protect applied-for or authorized but unlicensed facilities as of February 22, 2012, as discussed in Paragraphs 113-14 of the *Notice*, include the Network Affiliates, NAB, Univision Communications, Inc., Tribune Company, Gray Television, Inc., and WGAL Hearst Television, Inc.

⁴ See *Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Replacement Digital Low Power Television Translator Stations*, 24 FCC Rcd 5931 (2009) ("DRT Order").

⁵ FCC File No. BMPCDT-20120305ABN (granted March 16, 2012). This application proposed a minor modification of an earlier construction permit to specify an alternative transmission site. FCC File No. BDRTCDT-20090630AEB (granted Sept. 15, 2009). The Commission granted a license to cover this facility on December 14, 2012. FCC File No. BLCDDT-20120905AAO.

area and are able to receive over-the-air CBS service because of the digital replacement translator.⁶

CBS has three other operating or authorized digital replacement translators. It operates a digital replacement translator on channel 27 associated with the license for Station WPCW, Jeannette, Pennsylvania.⁷ In Chicago, CBS's WBBM-TV, which broadcasts on channel 12, has a construction permit for a digital replacement translator on channel 26.⁸ The digital replacement translator is expected to provide over-the-air service to the areas of Chicago where the station's VHF signal cannot be received.

After the digital transition, CBS found that the digital signal of its KPIX-TV, San Francisco, California, did not reach tens of thousands of viewers within the station's analog Grade B contour, in part because of terrain blockages. To address those problems, CBS applied for and holds a construction permit for a digital replacement translator on channel 42 serving

⁶ Statement of Joseph M. Davis at 1-2.

⁷ FCC File No. BLCDDT-20120709AED (granted Aug. 2, 2012). A construction permit for this facility was granted on July 22, 2009. FCC File No. BDRCTDT-20090630AEE. WPCW's digital transmitter site is closer to Pittsburgh than its analog transmission site, which left a large area around Johnstown without service. CBS constructed this digital replacement translator which covers a large part of the area formerly within the WPCW analog Grade B contour and serves 138,824 people who would otherwise have lost service. It also serves 76,646 people who cannot receive the WPCW main signal because of interference and terrain losses. Statement of Joseph M. Davis at 2-3.

⁸ FCC File No. BDRCDT-20090818AAP (granted Jan. 18, 2012). The translator facility has been constructed apart from needed upgrades to a tower to accommodate the antenna. CBS expects to place the facility on the air by early Summer 2013. The translator's service contour, which will aid indoor reception, will reach 5,457,080 persons. Statement of Joseph M. Davis at 3.

Napa and Sonoma counties.⁹ All of the viewers in the coverage areas of these existing and authorized facilities should be protected in the upcoming repacking.

The unique history and licensing status of digital replacement translators require that the Commission view their service areas as part of the service areas of the station to which they are licensed and which must be protected in any repacking after the incentive auction. Congress mandated that the Commission make “all reasonable efforts to preserve . . . the coverage area and population served of each broadcast television licensee.”¹⁰ Digital replacement translators were authorized to maintain existing levels of service to the public. They are, as NAB pointed out, “an integral part of the full service facilities protected during repacking.”¹¹

Digital replacement translators make it possible for the public to receive “network programming, local news, and life-saving information” on which they rely.¹² They are particularly important during emergencies, such as Superstorm Sandy which struck the New York area last year and which left millions of residents entirely dependent on over-the-air broadcast signals for access to emergency information.¹³ The Long Island communities served by the WCBS-TV translator were in the direct path of the storm and suffered widespread damage.

The distinctive licensing process for digital replacement translators also demonstrates that their service areas should be included in the area protected during repacking. Digital

⁹ FCC File No. BDRCDT-20090630ADO (granted Sept. 19, 2011). The translator’s service contour will reach 51,986 people who cannot view the KPIX-TV main signal due to terrain losses. Statement of Joseph M. Davis at 3.

¹⁰ Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96 (2012)(the “Spectrum Act”) § 6403(b).

¹¹ Comments of NAB at 33.

¹² Comments of Gray Television, Inc. at 8.

¹³ See Comments of New York State Broadcasters Association, Inc. at 4-6.

replacement translators do not receive separate licenses or call signs; instead they are licensed as part of the license of the full-power station they repeat.¹⁴ They are transparent to viewers since, unlike terrain-extending translators, they share their associated full-power station's virtual PSIP channel number and the full-power station's call sign.¹⁵ Applications for digital replacement translators are filed as minor modifications of the license of a full-power station.¹⁶ They cannot be transferred or assigned separately from their associated full-power facility.¹⁷ And, with only *de minimus* exceptions, the area digital replacement translators serve cannot extend beyond the protected analog service area of their full-power station.¹⁸

These aspects of digital replacement translators, which make them different from other low-power and translator stations, explain why they should be viewed as part of the coverage area of full-power stations that Congress in the Spectrum Act intended the FCC to preserve.¹⁹ When the Commission develops its post-auction repacking plan, it must therefore ensure that the viewers served or to be served by digital replacement translators do not lose service, whether by specifying a full-power facility that reaches those viewers, by preserving the digital replacement translator's channel, or – if no alternative is available – by assigning a new channel to be used by the digital replacement translator.²⁰

¹⁴ Comments of Bahakel Communications, Ltd. at 4.

¹⁵ Comments of Network Affiliates at 39.

¹⁶ Comments of Tribune Company at 19.

¹⁷ *DRT Order* ¶ 23; Comments of Cox Media Group at 4.

¹⁸ *DRT Order* ¶¶ 18, 20.

¹⁹ Comments of Network Affiliates at 40.

²⁰ Belo Corp. (Comments at 15-16) made an alternative suggestion that digital replacement translators be given priority in displacement applications under the selection priorities anticipated in Paragraph 361 of the *Notice*. To the extent that approach ensures continuation of the service provided by digital replacement translators, CBS concurs with it, but is concerned that in some areas – such as New York – the Commission might leave no spectrum for low

WCBS-TV's digital replacement translator on channel 22 exemplifies the benefits the Commission sought to achieve when it authorized stations facing post-digital transition reception losses to construct low-power translators to preserve over-the-air service. Hundreds of thousands of people can obtain network programming, news and information from WCBS-TV because of this facility. CBS's other digital replacement translators ensure over-the-air service for large parts of their markets as well. The Commission's longstanding policy has been that "loss of service is *prima facie* inconsistent with the public interest."²¹ Repacking rules should follow that policy and preserve over-the-air service provided by digital replacement translators.

The Commission Should Protect the Service Areas of Digital Replacement Translators for Which Applications Were Pending or Construction Permits Granted on February 22, 2012

In Paragraph 113 of the *Notice*, the Commission proposed to protect only areas served by facilities licensed on February 22, 2012, although it interpreted the Spectrum Act to allow it to grant "protection to additional facilities where appropriate." The Commission should use that authority to protect the areas served by digital replacement translators for which construction permits were applied or granted as of February 22, 2012. As the Network Affiliates point out, the entities protected in repacking are "licensees," not "facilities," and CBS' digital replacement translators are tied to full-power stations that were operating on February 22, 2012.²² In CBS' case, the Commission took more than two years to act on the construction permit applications for digital replacement translators in Chicago and San Francisco, and those processing delays should

power television, obviating any benefits from a selection priority. Rather than being granted priority status among secondary transmitters, CBS believes – as discussed above – that the service provided by digital replacement translators must be given the same protection as the service from their associated full-power transmitters.

²¹ *KNTV License, Inc.*, 19 FCC Rcd 15479 n.11 (Med. Bur. 2004); see *West Michigan Telecasters, Inc. v. FCC*, 460 F.2d 883, 889 (D.C. Cir. 1972); *Hall v. FCC*, 237 F.2d 567 (D.C. Cir. 1954).

²² Comments of Network Affiliates at 20-22.

not deprive the viewers to be served by those facilities of over-the-air network service. Since construction permit applications were filed by CBS for all of its digital replacement translators well before the passage of the Spectrum Act, they were all part of the service areas protected under the Commission's rules as of the date Congress acted. The Commission should include all of them among the facilities to be protected in repacking.²³

Conclusion

For the reasons set forth above, the Commission must ensure that WCBS-TV, WPCW, WBBM-TV and KPIX-TV continue to serve the viewers they are authorized to reach over digital replacement translators.

Respectfully submitted,

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March 12, 2013

²³ See Comments of NAB at 31-32; WGAL Hearts Television, Inc. at 8; Comments of Gray Television, Inc. at 4-5; Comments of Tribune Company at 20; Comments of Univision Communications, Inc. at 8-13.

ENGINEERING STATEMENT

prepared for

CBS Corporation

GN Docket 12-268

This engineering statement has been prepared on behalf of *CBS Corporation* (“*CBS*”), in support of *Reply Comments* in a Notice of Proposed Rulemaking, GN Docket 12-268.¹ Coverage area and population data are provided herein regarding various translator facilities.

CBS is the ultimate parent of the licensees of stations WCBS-TV New York NY, WPCW Jeannette, PA, WBBM-TV Chicago IL, and KPIX-TV San Francisco CA. Each of these stations is authorized to operate a so-called “replacement digital translator” as described in MB Docket 08-253.² The translators serve to recover viewers that were lost at the transition to digital television due to terrain blockage, incoming interference, service contour changes, and/or the well-known difficulties with reception of digital television on VHF channels.

WCBS-TV New York, NY

The WCBS-TV main facility operates at the Empire State Building on Channel 33. Station WFSB-TV at Hartford CT is closely spaced (only 151 km) to WCBS-TV and also operates on Channel 33, co-channel to WCBS-TV. Consequently, WCBS-TV suffers from significant incoming interference from WFSB in the eastern and northeastern portions of its service area. Further, the digital WCBS-TV noise limited service contour (“NLSC”) falls short of the legacy analog Channel 2 Grade B (47 dBμ) contour by almost 10 km. A translator was established for WCBS-TV on Channel 22 (BLCDT-20120905AAO) to help fill in service at some of these areas of service loss which otherwise exists on Long Island and southern Connecticut.

The WCBS-TV Channel 22 translator’s service contour (51 dBμ as adjusted with the dipole factor to 49.6 dBμ) encompasses a population of 319,872 persons (2000 Census) within an area of

¹*Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket 12-268, released October 2, 2012.

²Report and Order, *Amendment of Parts 73 and 74 of the Commission’s Rules to Establish Rules for Replacement Digital Low Power Television Translator Stations*, MB Docket 08-253, FCC 09-36, released May 8, 2009.

978.2 square km that are within the main WCBS-TV facility's NLSC but are subject to interference and terrain losses. Additionally, the translator's service contour covers 62,669 persons within 427.8 sq. km that are within the former analog Grade B contour but beyond the main digital facility's NLSC. Figure 1 supplies a map depicting the main facility's predicted coverage and incoming interference along with the contours associated with the translator and the former analog facility. The areas of interference, terrain blockage, and interference-free service were determined using FCC OET Bulletin 69³ techniques.

WPCW Jeannette, PA

At the transition in 2009, WPCW flash-cut to digital operation on Channel 11 utilizing a site owned by CBS and co-located with another CBS station, KDKA-TV (Ch. 25, Pittsburgh, PA). The legacy WPCW analog Channel 19 site was leased. At the start of the transition, a change in WPCW's principal community from Johnstown to Jeannette was made. Subsequently, WPCW's pre-transition channel was changed to Channel 49 in MB Docket 05-52⁴ due to interference issues implementing the originally allotted Channel 30 in conjunction with the change in principal community. A Construction Permit was never granted for WPCW to operate on Channel 49 due to the disputed decision in MB Docket 05-52 (see BPCDT-20060510AAI, dismissed June 23, 2008).

Post-transition, the outcome for WPCW was that its eventual digital Channel 11 facility was sited a considerable distance from the legacy analog Channel 19 site. Considerable portions of the service area of the former analog Channel 19 are not covered by the digital WPCW Channel 11 facility due to those areas being well beyond the Channel 11 NLSC or being lost due to terrain blockage and interference. WPCW's replacement digital translator on Channel 27 (BLCDDT-20120709AED) is located on the former analog Channel 19 tower and provides fill-in service to many areas that lost service at the transition to digital. See Figure 2.

³FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A cell size of 2 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

⁴*Amendment of Section 73.622(b), Table of Allotments, Digital Television Broadcast Stations (Johnstown and Jeannette, Pennsylvania)*, MB Docket No. 05-52, RM 10300, DA 05-359, released February 17, 2005.

The WPCW Channel 27 translator's service contour encompasses a population of 76,646 persons within 1147 square km that are within the main WPCW facility's NLSC but are subject to interference and terrain losses. Additionally, the translator's service contour covers 138,824 persons within 3726.9 square km that are within the former analog Grade B contour but beyond the main digital facility's NLSC.

WBBM-TV Chicago, IL

WBBM-TV's post-transition operation is on VHF Channel 12 at 8 kW effective radiated power ("ERP"). As with many television stations utilizing VHF channels at the transition to digital, service losses were immediately experienced by WBBM-TV within its principal community and other areas within the prior analog facility's Grade B service area. In particular, indoor reception at locations within Chicago and other areas in close proximity to the transmitter site is challenging on VHF Channel 12. Problems with digital VHF reception by other stations have been widely publicized since the transition date. An increase in ERP beyond 8 kW would result in impermissible interference to other stations.

The authorized Channel 26 replacement digital translator (BDRTCDT-20090818AAP) will provide digital UHF fill-in service to aid indoor reception in the heavily populated Chicago area. See Figure 3. The translator's service contour covers 5,457,080 persons within 4,073.8 square km.

KPIX-TV San Francisco, CA

KPIX-TV operates on Channel 29 as its post-transition digital facility utilizing the maximum ERP permitted of 1000 kW atop the shared "Sutro" tower structure. At many locations away from San Francisco, there is considerable terrain blockage for which the San Francisco market is well-known.

The authorized Channel 42 replacement digital translator at Napa, CA (BDRTCDT-20090630ADO) will provide fill-in service in the northern portions within the main Channel 29 facility's NLSC. See Figure 4. The KPIX-TV Channel 42 translator's service contour encompasses a population of 51,986 persons within 1032 square km that are within the main KPIX-TV facility's NLSC but are subject to terrain losses.

Certification

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.

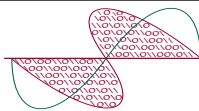


Joseph M. Davis, P.E.
March 11, 2013

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List of Attachments

Figure 1	WCBS-TV Digital Translator
Figure 2	WPCW(DT) Digital Translator
Figure 3	WBBM-TV Digital Translator
Figure 4	KPIX-TV Digital Translator



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Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 1 WCBS-TV Digital Translator Coverage to Loss Area

prepared for
CBS Corporation

March, 2013

Main Facility: WCBS-TV New York, NY
Ch. 33 284 kW 397 m BLCDT-20090612AFN
Noise Limited Service Contour
41 dBu as adjusted with dipole factor (40.6 dBu)

Prior Analog WCBS-TV Facility
Ch. 2 BLCT-20011123AAQ
47 dBu Contour (Grade B)

WCBS-TV Plainview, NY
Replacement Digital Translator Facility
Ch. 22 15 kW BLCDT-20120905AAO
Digital Translator Service Contour
51 dBu as adjusted with dipole factor (49.6 dBu)

Main Facility Coverage Subject to Interference and
Terrain Losses Recovered by Translator:
Population 319,872 (2000 Census)
Area 978.2 sq. km

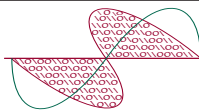
Coverage Within Former Analog Grade B and Beyond
Main Digital Facility Recovered by Translator:
Population 62,669 (2000 Census)
Area 427.8 sq. km

Predicted Coverage and Interference (WCBS-TV Ch. 33)

- Interference-Free Coverage
- Interference
- Signal below threshold (terrain blocked)

Predicted coverage and interference based on FCC OET Bulletin 69
and assumes a receiving antenna 30 feet above ground.
Actual results may vary.

Scale 1:1,500,000
0 20 40 60 km



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Figure 2 WPCW(DT) Digital Translator Coverage to Loss Area

prepared for
CBS Corporation

March, 2013

Main Facility: WPCW(DT) Jeannette, PA
Ch. 11 30 kW 259 m BLCDT-20090626AAT
Noise Limited Service Contour 36 dBμ

Prior Analog WPCW Facility
Ch. 19 BLCDT-20030512ABA
64 dBμ Contour (Grade B)

WPCW Johnstown, PA
Replacement Digital Translator Facility
Ch. 27 15 kW BLCDT-20120709AED
Digital Translator Service Contour
51 dBμ as adjusted with dipole factor (50.05 dBμ)

Main Facility Coverage Subject to Interference and
Terrain Losses Recovered by Translator:
Population 76,646 (2000 Census)
Area 1147.0 sq. km

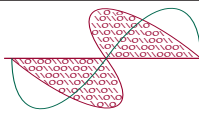
Coverage Within Former Analog Grade B and Beyond
Main Digital Facility Recovered by Translator:
Population 138,824 (2000 Census)
Area 3726.9 sq. km

Predicted Coverage and Interference (WPCW Ch. 11)

- Interference-Free Coverage
- Interference
- Signal below threshold (terrain blocked)

Predicted coverage and interference based on FCC OET Bulletin 69
and assumes a receiving antenna 30 feet above ground.
Actual results may vary.

Scale 1:1,500,000
0 20 40 60 km



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Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 3 WBBM-TV Digital Translator Coverage Area

prepared for
CBS Corporation

March, 2013

Main Facility: WBBM-TV Chicago, IL
Ch. 12 8 kW 497 m BLCDT-20090612ADR
Noise Limited Service Contour 36 dBμ

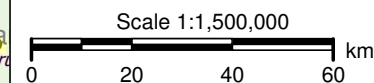
WBBM-TV Chicago, IL
Replacement Digital Translator Facility
Ch. 26 15 kW BDRTCDT-20090818AAP
Digital Translator Service Contour
51 dBμ as adjusted with dipole factor (49.95 dBμ)
Population 5,457,080 (2000 Census)
Area 4,073.8 sq. km

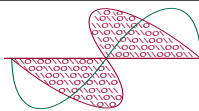
Prior Analog WBBM-TV Facility
Ch. 2 BMLCT-20050729AHG
47 dBμ Contour (Grade B)

Predicted Coverage and Interference (WBBM-TV Ch. 12)

- Interference-Free Coverage
- Interference
- Signal below threshold (terrain blocked)

Predicted coverage and interference based on FCC OET Bulletin 69
and assumes a receiving antenna 30 feet above ground.
Actual results may vary.





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Main Facility: KPIX-TV San Francisco, CA
Ch. 29 1000 kW 512 m BLCDT-20091112AIZ
Noise Limited Service Contour
41 dBμ as adjusted with dipole factor (40.23 dBμ)

Prior Analog KPIX-TV Facility
Ch. 5 BLCT-2266
47 dBμ Contour (Grade B)

Figure 4 KPIX-TV Digital Translator Coverage to Loss Area

prepared for
CBS Corporation

March, 2013

KPIX-TV Napa, CA
Replacement Digital Translator Facility
Ch. 42 1.28 kW BDRTCDT-20090630ADO
Digital Translator Service Contour
51 dBμ as adjusted with dipole factor (51.36 dBμ)

Main Facility Coverage Subject to Interference and
Terrain Losses Recovered by Translator:
Population 51,986 (2000 Census)
Area 1032 sq. km

Predicted Coverage and Interference (KPIX-TV Ch. 29)

- Interference-Free Coverage
- Interference
- Signal below threshold (terrain blocked)

Predicted coverage and interference based on FCC OET Bulletin 69
and assumes a receiving antenna 30 feet above ground.
Actual results may vary.

Scale 1:1,500,000
0 20 40 60 km

